

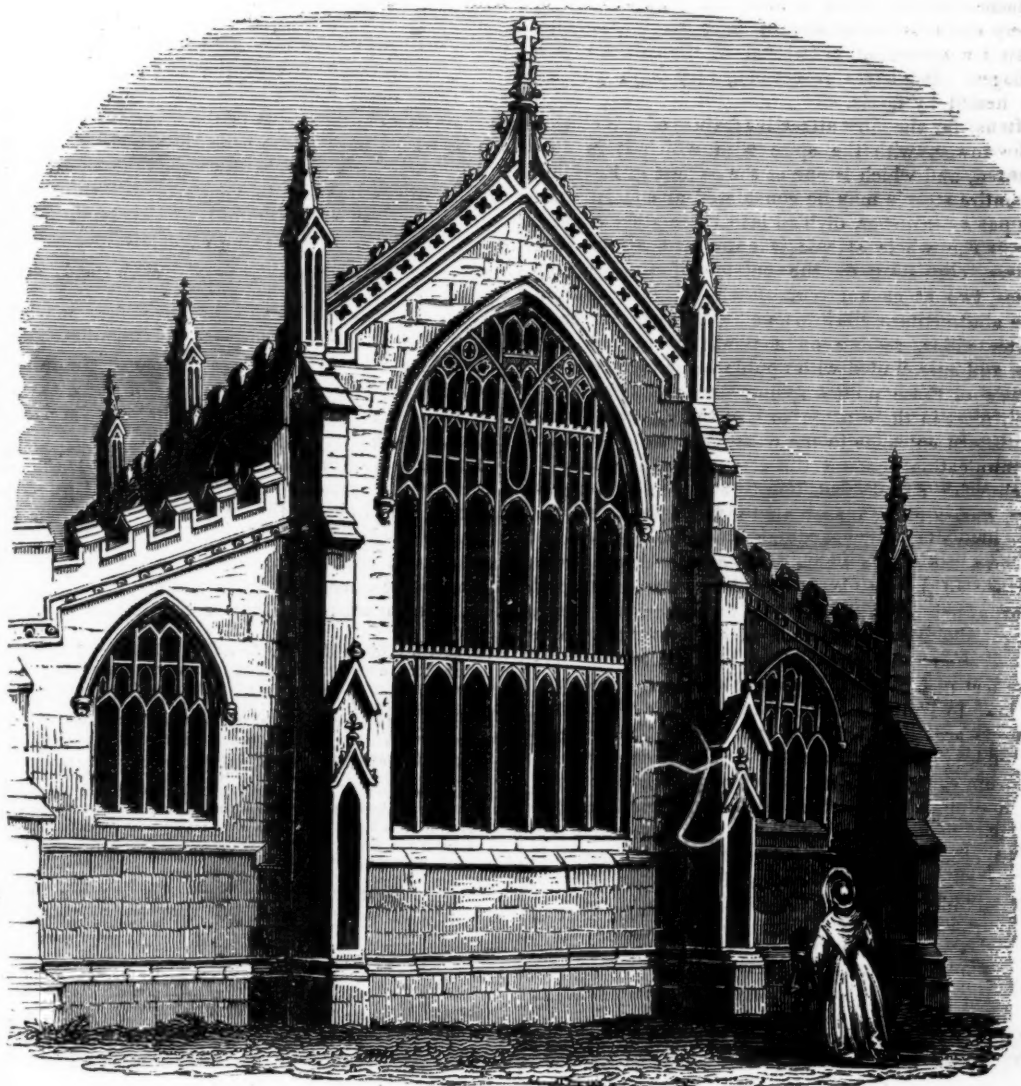
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LOUTH CHURCH, LINCOLNSHIRE.

LOUTH Church, in the eastern part of Lincolnshire, is one of the finest examples which England presents of the style of architecture prevalent shortly before the Reformation; and it is further remarkable from the fact that scarcely any of the stone of this building is to be found in that part of the country, so that the parties who built it, notwithstanding their limited funds, had to send to a considerable distance for building materials. The body of the church is supposed to have been built about the middle of the fifteenth century; and the tower, which is much superior to it, somewhat later, probably in the reigns of Richard the Third and Henry the Seventh.

The church consists of a nave, chancel, and aisles, with a lofty and singularly elegant tower and spire at

the west end. At the east end—the one shown in our cut—is a large central window of seven lights, with very beautiful tracery, and two lateral windows, admitting light into the side aisles: the tracery work of the large window is well relieved by a pair of niched and canopied buttresses; and the whole is finished at the top by an angular point, supporting a fleury cross. The exterior of the sides of the church are now rather plain; although there appear to have been originally figures of saints placed in appropriate niches: the walls are embattled, and have numerous crocketed pinnacles.

The interior of the church exhibits architectural details of different dates, the middle and side aisles appearing to be the oldest part of the building; while

the chancel appears to have been erected at the same period as the steeple. The nave is separated from the aisles by octagonal columns, the alternate sides of which are relieved by single flutes; and the pointed arches between the columns are groined by arcs of circles whose centres are the opposite imposts. Above the pillars is a range of windows, which admit light to the top of the middle aisle. The chancel, which, as we have observed, is rather more modern than the other part of the body of the church, is divided into a middle and side aisles by means of pillars: each of these pillars is composed of four circular shafts, forming a quatrefoil, connected at the corners by a cove, and their bases rest upon very high plinths, surrounded by fascia.

But by far the most attractive feature of this church is the tower, with the spire with which it is surmounted, and which is one of the loftiest in England. The entire steeple may be considered as consisting of four parts,—a tower, divided into three stages, and a spire. The whole steeple is supported by its four corners, consisting on the outside of similar buttresses, two at each angle. Each inside corner of these abutments swells into an elegant clustered three-quarter pillar, resting on a plinth about four feet high, and surrounded with double fascias. From the capitals of these pillars spring four pointed arches, which meet in the centre: one of these arches forms the western entrance to the church; another forms a communication between the steeple and the body of the church; and the remaining two are seen externally, and are open as high as the side aisles, the space above being occupied as windows.

Above the arches which terminate the lower stage or story of the steeple is a gallery extending round it, at a height of fifty-three feet from the floor, and guarded by a balustrade of tracery-work. The second story now commences, and is about thirty-three feet in height, having eight large regular pointed windows to light the interior, two on each side: these windows are separated from each other, at the corners and middle of the sides, by shafts and cornice-work: and from these shafts spring diagonal ribbed arches, which support a beautiful dome-shaped summit to this part of the steeple. We have now reached a height of about eighty-eight feet above the ground; and at this point a gallery, guarded by a parapet, runs round the exterior of the steeple: above this is the third stage of the steeple, which adds about sixty feet more to its height, with two highly ornamented windows in each face, surmounted by crocketed canopies in bold relief. Here, at a height of one hundred and forty-seven feet above the ground, terminates the tower by a series of battlements, each side of which is pierced by embrasures.

Above the tower is the delicate spire, shooting up to a height nearly equal to that of the tower itself, so that the total height from the ground to the summit of the spire is very little short of three hundred feet. The spire is octangular; and four of its sides are connected with the corner turrets by spandrels or flying buttresses of light and elegant workmanship. In the remaining four faces, opposite to the four cardinal points, are small pointed windows, and the edge of each face is ornamented with crockets, which contribute much to the decorated appearance of the spire. The buttresses at the four corners of the tower contract as they advance in height, still preserving the fine proportion between their several parts: at each contraction the preceding or lower stage terminates with elegant pediments supported by grotesque projecting corbels: these pediments are each formed by two graceful curves, the compartments of

which are filled up with bold relief and the outward edges are adorned with crockets similar to those of the spire.

Such is the church of St. James at Louth, and the reader will judge from the description, that it is a beautiful specimen of architectural skill. Who were the parties by whom the expense of the erection was defrayed is not now well known; but a document which, though now probably lost, has fortunately been partially copied into the *Archæologia*, affords us some curious information respecting the details of expense incurred during the erection. The book to which we here allude was a M.S., written, it is supposed, by an inhabitant of the town of Louth, and containing many details respecting the antiquities of the church and other parts of the town. Its existence can be traced back to the year 1688, after which time it was sometimes kept in the "paryshe cheste," and at other times lent out to "enterteyne" the inhabitants. The last notice found of the book is in a parish entry, to the following effect:—

"Mem. June 16, 1734. The parish clerk stands chargeable with Imprs. among other things—

Item, A book giving account of the edifices and buildings of the church and steeple, &c., and curiosities thereof."

Before the book was missing, some of the inhabitants took extracts from it, and one of these extracts was procured by Sir Joseph Banks, and inserted in the tenth volume of the *Archæologia*.

The extract from this old book gives the prices paid for stone, the price of carriage from the "quarrell" (quarry) to Louth, the wages of workmen, and numerous other items, of which we will here give a few of such sort as will illustrate the difference in the commercial value of labour and materials at that time, as compared with that of the present day.

Item, paid to William Nettleton for riding to the quarrell to buy stone for the steeple, and for to get a master mason to take charge of the said steeple, four days..... 2 0
Item, paid to John Cole, master mason, and to William Johnson, riding to the quarrell for to buy stone for the steeple... 3 4
Item, paid to William Thomas, to fetch him divers things.... 0 10
Item, paid for packthread, glue, and nails 0 3
Mem. That master master and William Johnson bought stone at the quarrell of Roger Hawking and Edmund Shepherd, 100 foot, price a foot 2½d.; and to William Camworth 100 foot, price a foot 2½d.; also to John Glover, for eight load of great stone, 3s. 4d.; and also to the said master and William for their costs 3s. 4d.

It appears that at one time the master master quarrelled with his employers, for there is the following entry:—

Item, paid Lawrence Mason for riding to his master in North Country, to ask him whether he would make entry of the steeple, and he said he would deal no more with it, but he showed his counsel 6 8
Item, William Walker and Lawrence Mason, riding to Boston to speak with master master to make end of steeple 2 0

The details are exceedingly minute and curious but the above will be a sufficient sample of them. The stone employed seems to have cost from two to three-pence per cubic foot: lime and mortar about sixpence per bushel: one yew-tree from the abbot's grounds, three and four-pence, with about a shilling more for felling, carting, &c.: twenty-four fathoms of great cable, to wind up the stones, sixteen shillings. The entire expense of the steeple amounted to about three hundred pounds. The account book also states the weight and value of several bells which were placed in the steeple, and the sum paid to one William Foster for "riding to the bell-maker at Nottingham to see the bells cast."

The original spire was blown down on the 11th of October, 1634, and the present one erected under the direction of Thomas Turner, at an expense of only 135*l*.

HISTORICAL SKETCHES.

CASE OF THE CALAS FAMILY.

Few things are more remarkable in the pages of modern history than the contempt which Divine Providence poured, in the course of the last century, on two, humanly speaking, magnificent projects for the regeneration of the world. These projects differed in all points but this one, that both rejected Christianity as it came from God—the one corrupting it—the other denying it altogether. We allude to the Papacy, as exhibited in France, and to modern infidelity, when adopted as a practical system in the same country. Both defeated their own purposes, and were convicted of folly by their results; yet their living adherents refuse to acknowledge any such failure, and accordingly would still usurp all power in that miserably deceived country, if they could.

It is well known that the Papal church in France pursued a course of relentless cruelty towards the Protestants of that country during the last twenty years of the seventeenth century; but it is less known that these cruelties were continued down to a comparatively recent period of the last century, and that nothing tended to enlist the sympathies of the humane though ignorant French, on the side of such deceivers as Voltaire, so much as the adroit manner in which these pretended philosophers brought forward the individual instances of fanaticism of which Protestants were the victims, as proofs of the need there was of a new system of things altogether, which would exclude all such horrors, and introduce what Papal Christianity had obviously failed to do, the universal reign of moderation, peace, and charity. Rejecting the Gospel of our salvation altogether, partly because of the association established in their minds between it and the fiercest fanaticism, partly because of the purity and humility which they no less associated with the Protestant view of it, they introduced a scheme of their own devising, which, in its results, was more bloody and fanatical than what they sought to supersede, and of whose horrors the world perhaps has not yet had all the experience it may endure.

Among such instances of fanaticism that of the Calas family holds a conspicuous rank. It is a very horrible one, and yet it is right that it should be recalled, from time to time, as a warning, alike to the learned and the unlearned, rich and poor, priest and people, how fearfully we are all subject to have our reason disturbed and our humanity extinguished by religious feelings, unenlightened and purified by sound religious views.

John Calas, aged sixty-eight, in 1762 had been known as a merchant at Toulouse for forty years, and was thought a good father by all who knew him. His wife was an Englishwoman. Both were Protestants, as were all their children, excepting one who had abjured, and to whom his father gave a small pension. This proved his moderation, which was further shown by his having had a Popish servant in his family for thirty years, to whose care he had committed all his children.

One of his sons, called Mark Anthony, had devoted himself to literature. He had a naturally restless, gloomy, and violent temper, which had been exasperated by ill success as a merchant, and by his rejection from the bar, where he could not be admitted without religious certificates which he could not obtain. Disappointments seem to have impaired his reason, for he now thought of making away with himself, and with that view began to read books on suicide.

Gambling seems to have been one of those perilous occupations by which he sought to divert the melan-

choly that now oppressed him, and it proved his ruin, for the occasion of his losing all he had at play was that of his resolving to commit self-murder. Lavoisier, a youth of nineteen, son of a celebrated counsellor at Toulouse, and remarkable for the gentleness of his manners, had arrived that evening from Bordeaux, and being on friendly terms with Mark Anthony and the rest of the family, was to sup at their house. The party he met consisted of the father and mother, M. Anthony the eldest, and Peter the second son; and after supper the rest withdrew into a parlour, but M. Anthony disappeared. At length Lavoisier rose to go away, and Peter Calas and he went down stairs when, to their horror, they found M. Anthony suspended from a beam at the entrance from the wareroom. He had taken off his coat which lay folded on the counter. His shirt was as usual, his hair neatly combed, and his person bore no marks of violence.

The cries of the parents on this dreadful discovery alarmed the neighbourhood. Lavoisier and Peter Calas, like persons beside themselves, ran for surgeons and the police. Meanwhile the people of Toulouse met around the house. They were then a superstitious and irascible populace, descended from the fanatics who figure in history as the exterminators of the Albigenses, and seeming as if they inherited all their ferocity. Solemn thanksgivings were offered up at Toulouse for the death of Henry the Third of France, because suspected of not being sufficiently zealous in crushing the Reformation; and there, too, an oath was taken that the first who acknowledged his legitimate successor, Henry the Fourth, should have his throat cut. Even down to 1762 these ferocious sentiments were cherished by the Papal clergy, in a solemn yearly procession, accompanied with public rejoicings, held in commemoration of the massacre of 4000 Protestant citizens, two hundred years before. Public authority had attempted in vain to suppress this disgusting commemoration, but as the inhabitants had never been really Christianised, it was further endeared to them as a continuation of the Floral games of their pagan ancestors, while subject to the Romans, dashed with that tinge of blood, a taste for which may have descended from the times of the Druids.

What might not in such circumstances have been anticipated from such a crowd? A cry was heard—was repeated—and soon became general, that John Calas had hanged his own son! To this it was added, next day, that Anthony, having resolved to abjure Protestantism, had been strangled by his own family and his friend Lavoisier, acting under the influence of religious malice. Men's minds, once in motion, do not easily stop. It was imagined that there had been a meeting of the Languedoc Protestants on the preceding night; that young Lavoisier had been voted executioner for the whole body—had received notice of this appointment within twenty-four hours, and had posted from Bordeaux, in order to assist old Calas and his wife in strangling their son and his own friend.

So much excited was the chief magistrate of Toulouse by these insane rumours, that he put the whole of the surviving Calases, their Roman Catholic servant, and Lavoisier, in irons. The clergy published what is called a *Monitoire*, equally outraging all law and justice; and, more monstrous still, though the deceased had died out of the pale of the Church, and by his own hands, his body was buried with the utmost pomp in St. Stephen's church, in spite of the protestations of the parish priest.

The corruption of the best things, saith an old pro-

verb, makes them the worst; and this sad story proves what a dreadful thing even religion is when men fashion it according to their own devices, instead of submitting to it as it is revealed in Holy Scripture. There were at that time in Languedoc four fraternities of what were called Penitents—the white, the blue, the grey, and the black. Our Lord's command is, that when we fast for our sins, we should not appear to men to do so. These Penitents, however, seemed to think they could not make their devotion too public, or omit so fair an opportunity of attracting notice. That they were abundantly ambitious appears from their wanting the commandant of Languedoc, the Duke of Fitzjames, to join their fraternity, an honour which his grace declined. The white penitents had a religious service performed in honour of M. Anthony Calas, which might have served for a martyr. Above a magnificent *catafalque* they suspended a skeleton, representing the deceased, and made to move, while holding a palm-branch in one hand, and a pen in the other; the pen with which, as was pretended, he was to have signed his abjuration, but which did actually sign his father's sentence of death.

The people now universally considered him a saint. Some prayed to him; others prayed on his tomb; others besought him to work miracles for them; others spoke of miracles he had already wrought. A monk took several teeth from his body that he might have relics that would last. A superstitious woman, who was somewhat deaf, asserted that she had heard the church bells. An apoplectic priest was cured on merely taking an emetic. Minutes of these prodigies were drawn up. A youth at Toulouse became an idiot in consequence of having prayed for several nights on the tomb of the new saint without obtaining the miracles he had prayed for.

All these circumstances foreboded ill to the poor prisoners. Some of the magistrates belonged to the fraternity of white penitents; but what was of worse omen still, the year 1762 happened to be the centenary commemoration of the slaughter of the 4000 Protestants to which we have alluded. The preparations for it were then going on, and greatly added of course to the popular excitement. It was already said that the scaffold, on which the Calases were to be broken on the wheel, was to form the grandest ornament of the festival, and that Providence itself had provided these as victims to be sacrificed to our holy religion! So utterly remote from the religion of the blessed Jesus was that which usurped his name in Toulouse: so thoroughly pagan, in the very worst attributes of paganism, were the unfortunate dupes of the papal apostasy in that city!

Thirteen judges met daily to try the accused. Proof there was none, but religious delusion supplied its place. Six of the judges long persisted in voting that John Calas, together with his son Peter, and Lavoisier, should be broken on the wheel, and that his wife should be burnt at the stake. The other seven were more moderate, and desired at least that there should be a thorough investigation. The discussions were long and reiterated. One of the judges was convinced of the innocence of the accused, and that the crime, indeed, was impossible. The zeal of his humanity, no less fervent than that of the fanaticism of his opponents, made him the public advocate of the Calases among the families in Toulouse. But another judge spoke with equal keenness against them, and the two made so much noise at last that both resigned their places, and withdrew to the country. Unhappily, however, the judge who favoured the accused persisted in his resignation from motives of false delicacy, while the other returned; and this,

together with one of the six who were disposed to acquit having gone over to the side of severity, led at length to John Calas being condemned to be broken on the wheel.

Never was there a more iniquitous sentence. John Calas was an old man of seventy-eight, who had long been afflicted with weak and swollen legs. Had he strangled his son, he must therefore have been helped by his wife, his son Peter, Lavoisier, and the servant-maid. But as the deceased was a man of eight-and-twenty, and above the common strength, all of them together could not have murdered him without such a struggle as must have alarmed the neighbours, and left proofs of it in bodily wounds and torn clothes. Altogether the crime was such as hardly to be believed on any evidence, but of evidence there was absolutely none.

The judges, we are told, voted for John Calas's condemnation, under the persuasion that the weak old man, while writhing under the blows of the executioner, would confess his crime; but they were confounded when they heard their victim with his dying breath, on the wheel, calling upon God to witness his innocence and to pardon his judges. Conscience compelled them by their second sentence to contradict their first, by proposing to set the four surviving persons at liberty. But it being remarked that by this course the court must condemn itself, inasmuch as the accused must have been all equally innocent or guilty, they resolved to banish Peter, the son;—a sentence too mild if he were guilty, and undeserved if he were innocent. But the fact is, that the judges, conscience-smitten at the father's execution, and at the touching piety of his dying sentiments, thought to save their honour by letting it be supposed that they forgave his son; and considering the banishment of a poor helpless young man, as a matter of no consequence, they no doubt thought it best to put him out of the way.

Peter was threatened while in prison with being broken like his father on the wheel, unless he changed his religion, and while leaving Toulouse was brought back by one of the converting abbés, as they were called. He was then shut up in a Dominican monastery, and compelled to practise all the outward observances of popery. His sisters were taken from their mother and shut up in a convent. Their mother, who had passed through such a rapid succession of calamities,—her eldest born dead by his own hands, her aged husband broken on the wheel, her surviving son and daughters, who might have comforted her, torn from her,—was left to starve and die of a broken heart. But some persons sought her out in the retreat to which she had gone, and urged her to demand justice from the king in person. Being an Englishwoman by birth she recoiled from this, deeming, not unnaturally, that, bad as the provinces of France were, the metropolis might be worse. This reluctance, however, was overcome. She arrived in Paris in a dying state. The state of society there was such as to secure for her much unexpected sympathy. The mild maxims and practices of England, and other Protestant states, had combined with several other causes to make the higher circles there, including the Court itself, tolerant and liberal; and already that fatal school of infidelity, which so grievously misled the French at a later period, was rising into influence, and sought as we have remarked to establish that influence by inveighing against the cruel policy of the papacy, and the fanaticism of its followers. The case attracted immense notice and sympathy. Fifteen counsellors at the Paris bar, subscribed a judicial statement of it, and it was brought in due form before the king in council.

The pleadings were printed, and the profits were to be given to the unfortunate widow, but so many editions were pirated that no benefit accrued to her from that source. The injustice with which the family had been treated excited the sympathy even of foreign countries, and public opinion in Paris was as much in their favour as it had been against them at Toulouse. The privy council decided that the widow should have her daughters restored to her, and all three appeared in crape, and dissolved in tears before their judges. To a people so fond of sentimental scenes as the French, this result must have been extremely interesting, and we doubt not that something more substantial was done in the way of repairing the wrong that had been committed.

So much for the famous case of John Calas. It is very affecting in itself, but its chief historic importance arises from the place it holds in a series of events, which led for a time to the utter suppression of the Papal Church in France, and inflicted a blow on that body, which it does not seem ever likely to recover.

In general, men have less sympathy for the suffering, than their condition ought to inspire. We meet them with a sad face, and are more earnest to show them that we are afflicted ourselves, than to seek to cheer their dejection. We multiply so many questions touching their health, that it would seem as if we feared to allow them to forget that they were sick.—D.

His plan is wise who examines, with a judgment free from ambition, the amount of fortune necessary to competence in his case, viewed in all its bearings; and commences the steady pursuit of it. Having reached that measure, if his desires impel him beyond the limit, which, in a more reasonable hour he prescribed for himself, he henceforward strives to be happy by sacrificing enjoyment. He barter it for a very uncertain means of purchasing even pleasures. In this way competency becomes useless to the greater part of those who obtain it. Victims of the common folly, and still wishing a little more, they lose, in the effort to get rich, the time which they might have spent in usefulness to others, and in healthy enjoyment to themselves. We see grasping and adroit speculators on every side; and but rarely men who know how to employ the resources of a moderate fortune. It is not the art of acquiring beyond competence, but of wisely spending, that we need to learn.—D.

THE SPANISH SHEPHERD

Is a being of a hardy and abstemious race. He is usually placed as an attendant on the *mayoral*, or head shepherd, at an early age, and rises according to merit. He goes forth dressed in a jacket of black sheep-skin, breeches made of the same material, a red silken sash tied round his waist, long leather gaiters, a slouched hat, a staff with an iron point in his hand, and a *manta*, or brown blanket, slung over his left shoulder. If his fowling-piece, or his dog, does not supply him with a meal, his fare is of the scantiest kind, while water is almost his only beverage. A few heads of garlic, a little tobacco, an extra shirt, and a supply of ammunition are the only contents of his wallet.

Debarred from all the conveniences of life, and during eight months in the year exposed to the rigours of heat and cold—ill fed, and often worse clad, the desert usually serves him as a lodging-place, the rock as his pillow, and his dog as a companion. The extent of territory which he traverses in the course of a season it would be difficult to calculate. Chance commonly guides his steps, although his track lies across the most secluded, and often the most rugged, parts of the country. Want alone drives him to the busy habitations of man, and yet the earnings of the head shepherd, or *mayoral*, do not amount to 20*l.* per annum, and those of his underlings to no more than a fourth of that sum. This race of men, and smugglers, formed the best guerilla soldiers, during the French invasion. Often they traversed the enemy's camp, undiscovered, as spies.

EVEN in our periods of happiness, if we pause for the reflection of a moment, we find the need of immortality.

SOUTH AFRICAN ANTELOPES. II.



THE PALLAH, (*Antelope melampus*.)

No country perhaps is more richly stocked with animals belonging to one particular tribe than Southern Africa is with those of the *Antelope* kind. Wherever the traveller passes, or near the rugged mountains of that region, he is almost sure to meet with some species or other of antelope. We have recently given a description of one of these species, viz, the *Spring-bok*, and shall now notice a few others, such as the *Pallah*, the *Steen-bok*, the *Grys-bok*, the *Bless-bok*, and the *Rhee-bok*. As our space is limited, and as there are many points of resemblance between these species, we shall in the present paper notice the five which we have here named.

The *Pallah* is, when full grown, rather more than four feet and a half in length from the nose to the origin of the tail; three feet high at the shoulder, and a little greater at the croup. The horns have a sort of irregular lyre-form, bending first forwards and outwards, then with a large circular sweep inwards, and finally pointing forward again: their entire length is about twenty inches; and, although only three inches apart at their points, are nearly one foot asunder in the middle: each horn is surrounded for two thirds of its length with irregular rings, often splitting into two halves: they are strong, black, striated, and irregularly annulated, except near the points, which are smooth. The head, back, flanks, and outer surface of the legs and tail are of a yellowish red colour; whereas the lips, eyebrows, interior of the ears, breast, belly, and inside of the legs, are white. Along the middle of the back extends a deep shining black band or stripe, which divides on the croup, and passes down along each hip in the form of a crescent, separating the rufous colour of the back from the white of the other parts. The outside of the knee and heel are covered with brilliant black spots, which are in strong contrast with the general rust colour of the extremities, and from which the animal obtains its specific name of *melampus*. The tail, which is about eight inches long, is white, and without any terminal tuft. The ears are very long.

frequently as much as seven inches, and are covered on the outside with short red hair, bordered and tipped with black.

The Pallah is found in Caffraria and the country of the Bushuanas. They reside on the open plains in families of six or eight individuals, and are extremely numerous on the elevated plains in the neighbourhood of Latakoo, and constitute a favourite object of the chase with the natives, as the flesh, though deficient in fat, is well tasted and wholesome. It is called Pallah, or, Paala by the Bushuanas, and Roode-bok (Red buck) by the mixed Hottentots who have travelled into the district which it inhabits. It is described by Mr. Burchell as being somewhat similar to the Spring-bok in form and colour, but considerably larger in size; it is also without that peculiar duplication of the skin of the back, which we described in our recent article on the Spring-bok. The Pallah differs from the Spring-bok in the horns more perhaps than in any other respect, they being of different form, and spreading farther apart, of more than twice the length, and being wholly wanting in the females.

The STEEN-BOK is an exceedingly graceful and elegant species of this tribe, but rather smaller in size than most other species. The body is compact and well made, and the head small and pointed. The colour is reddish fawn on the upper parts of the body; but a peculiar effect is produced by the tips of the hairs being tinged with a light dun or silvery brown hue: the nose and legs are dark brown, while the breast and the belly are white. The females have no horns, but the horns of the males are small and round, furnished at the roots with a few faint wrinkles, but smooth and polished throughout the greater part of their length. The Steen-boks reside in pairs on the plains and mountain valleys, but seldom mount to the elevated rocky districts: this preference seems to arise in some degree from their desire of obtaining cover under the clumps of stunted bushes and underwood with which the dry open plains are often covered. The Steen-bok is very shy and timid, and runs and leaps with extraordinary agility: when it has power to escape from its pursuers, it will often, although not much more than three feet long, leap from twelve to fifteen feet at one bound; but when closely pressed, and without any means of escape, it will hide its head in any convenient hole or recess, and there patiently await its fate.

The GRYS-BOK is another species, closely allied to the Steen-bok, about three feet and a half long, and about a foot and a half high. The hair of the body is universally long, particularly on the hind quarters, but very short on the head and extremities. The upper parts of the body are of a deep crimson red colour, regularly intermixed with long coarse white hairs: this gives to the animal a hoary appearance, from whence it derived the name of Grysbok, (grey buck.) It lives in pairs upon the plains, never unites into troops or flocks, and conceals itself from pursuers in any place which can afford shelter. Lieutenant Moodie, in his *Wild Sports of South Africa*, has given a graphic description of a hunt after one of these beautiful but timid little animals. It would return again and again on the same track, then turn sharply round a corner of the bushes, and dart aside into some narrow foot path, where it would stand still for a time to listen for the dogs. When it found that its retreat was discovered, the little animal would start off, and as a last resource would sometimes make a desperate spring into the middle of a thick clump of bushes, and completely baffle its pursuers. Lieutenant Moodie remarks that the plaintive cries of the poor Grysbok when it was

caught by the dogs so nearly resembled those of a child, and the animal seemed so keenly alive to its hapless situation, that this circumstance diminished the pleasure of the chase. The eyes of the gazelle or antelope are often spoken of in oriental poetry, for their great beauty; but to none of the various species does the remark seem to apply better than to the Grysbok, whose eyes are said to have an almost indescribable expression of infantine simplicity, innocence, and helplessness.

The BLESS-BOK is one of the largest animals of the Antelope tribe inhabiting South Africa, being five feet and a half in length, and about three feet and a half in height, dimensions exceeding those of the European stag. The colours of the head and body are so singularly disposed, as to appear as if the fur had been artificially painted with different shades, laid on in separate masses. The head and neck are of a brilliant brown, excepting a narrow stripe of pure white which descends from the central point between the roots of the horns to the orbits, and, expanding, covers the whole face and nose down to the muzzle. The back is of a brownish-bay colour, thickly overlaid with dull purplish white; a band of a purplish brown tint passes down the flanks. The breast, belly, and in general those parts of the body which are least seen are, in this as well as in most other species of the African Antelope, of the purest white, and a small crescent of this colour passes over the back of the croup. The horns are sixteen inches long, rather thick, elegantly formed, the same in both sexes, those of the males being rather larger and heavier than those of the females: they are annulated with about a dozen prominent rings, which reach nearly to the points; and the summits of the two horns are about six inches asunder. The ears are about seven inches long, erect, pointed, and cylindrical; they are of a reddish fawn colour without and white within. The tail is long and switched, almost free from hair near the root, but having a terminal tuft of very long black hair: the trunk of the tail is about seven inches in length, and the hairs forming the tuft about four inches. When the Europeans first settled in South Africa, Bless-boks were seen in enormous troops, almost equalling in extent those of the Spring-boks; but they have long since ceased to be met with in such large numbers.

There are at least a dozen species of Antelope inhabiting South Africa; but we can only notice one more in the present paper. The RHEE-BOK is about five feet in length, and two feet and a half in height. The head is long and tapering, and about six inches long from the muzzle to the root of the horns. The hair partakes of the quality of wool, and is of an ash colour on the neck, shoulders, sides, croup, &c., whereas the under parts are of a white or light gray tint: while the animal is young, this woolly hair is beautifully curled into distinct locks, and its colour is much clearer than in after years. The horns are very long, straight, slender, and parallel, and by being smooth and attenuated towards the points, serve the Hottentots and Bushmen in place of needles and bodkins. As the body and legs of the Rhee-bok are long and slender, its pace is very swift, running with great velocity, keeping close to the ground, and moving with long, rapid, and uniform strides. They live in small families of five or six individuals, consisting of an adult male and three or four females with their young. Their usual residence is on the sides of moderate hills, among stunted trees and underwood, or in the rocky glens and mountain-passes, so as to be near the little pools of water which remain after the periodical rains.

THE INFLUENCES OF CHRISTIANITY.

THE palaces and theatres erected by human knowledge have become so vast and gorgeous, that we in our days may perhaps have stronger temptations than our fathers to abide contentedly therein, instead of going forth to build and to people the house of God. While the universe has been continually expanding before the advances of Science, men have been apt to fancy that it had outgrown God, because it had outgrown their conception of Him. When they have discovered some new province of His empire, as there was no place marked out for it in their previous system of things, they have thought it must belong to some unknown God: whereupon some have anticipated in reckless indifference, others in faithless dismay, that this unknown God must dethrone the God they had hitherto worshipped. In wandering and wondering over the immensity of the circumference, we have often forgotten that it must have a centre: and the Creation has still concealed the Creator, all the more because man deemed that he saw an image of himself in it, the work of his own hands, the reflexion of his own mind, and did not recollect of what mind his was the image, did not perceive how this very spectacle, which so dazzled and delighted him, bore testimony to its being so. Yet it is most certain, that the immeasurable superiority of modern Europe in science, as well as in other respects, to the rest of the world is owing wholly to the influence of Christianity. Indeed physical science, as has been justly remarked, has been almost confined to Christendom. For this there are many reasons. Christianity has given man an assurance of the unity and intelligent purpose pervading all the operations of Nature, an assurance which accompanies him as an unseen friend and guide in all his speculations. It delivers him from the bondage of Nature, from the thralldom both of the senses and of the fancy, and has thus elevated him above materialism, into which he would soon fall headlong, were he to lose its sustaining power. It enables him likewise to feel something like a fraternal sympathy and communion with Nature, a reverence for the work of the all-wise and benevolent Author of his own being, a reverence equally removed from voluptuous idolatry and from superstitious fear. We know that all the gifts of the natural world are the gifts of God, that the beauty of the natural world is the visible expression of His wisdom and goodness, that the laws of the natural world are His laws, and, as proceeding from Him, universal and unchangeable, until He shall will to change them. We have a feeling too that the natural world is in some measure a sharer in our Fall, and that it is waiting for the time when, along with its lord, it shall be delivered from the bondage of corruption. To the influence, often perhaps the latent influence, of these thoughts and feelings, do we owe that deeper and more spiritual love of Nature, which distinguishes Christian poetry and art. In science likewise it is the truth that has made us free; and the benefits of this freedom have been extended in some measure even to such as have rejected the truth whereby it had been obtained. For, like all God's gifts, this too has not always been rightly used and duly acknowledged. Though Christian wisdom is the great parent of natural science, it by no means follows that all men of science must have been Christians. Here again the weakness of man's Faith, his proneness to idolatry has shewn itself. He has evermore given up his heart and soul to that to which he had devoted his mind. He has fallen down and worshipped the laws, which he himself had found out. Yet, as it is through the operation of Christianity that even they who may reject it have been enabled to attain to whatever eminence they may have reached in science; so is it the unseen, unfelt influence of Christianity, that preserves them from gross materialism. Indeed manifold symptoms have shown themselves during the last hundred years, in the more intelligent nations of Europe, betokening how easily and inevitably, if we were to abandon our Faith in Christ, all that is good and wholesome and precious in the present condition of society would be swallowed up in the desolating licentiousness of a pantheistic atheism.

RETREAT and competence everywhere supply a wise man a degree of independence. Another kind of liberty is the portion of but a few in our own country,—the liberty of disposing of our whole time at our choice. To those who understand not the value of time, this liberty bequeaths a heavy bondage, but to those who have learned the secret of happiness it is of inestimable value. Being neither the slave of business, fashion, opinion, or routine, it is in his power at awaking to say, "This day is all my own."

LUMINOUS INSECTS. I.

Tell us, O Guide! by what strange natural laws,
This winged flower throws out, night by night,
Such lunar brightness? Why,—for what grave cause
Is this earth-insect crowned with heavenly light?

THE property possessed by certain animals of emitting light is so curious and interesting that it has attracted the attention of naturalists in all ages. It was particularly noticed by Aristotle and Pliny; and the publications of the different learned societies of Europe contain numerous memoirs on the subject. Notwithstanding the degree of regard thus bestowed upon the history of luminous animals, our knowledge still remains very imperfect. We sometimes find the power of producing light attributed to creatures which do not possess it, or we meet with imperfect and inaccurate descriptions of those which enjoy it in an eminent degree, while the explanations which have been given of the nature of animal light are contradictory and unsatisfactory.

The property of emitting light has been erroneously reported to belong to several fishes, more especially the mackerel, the moonfish, the dorado, mullet, sprat, &c., but it does not appear that any of these, or of the class of fishes in general are in possession of such a faculty, and the instances which have been observed of the bodies of doradoes, &c., being covered with luminous points during their migrations have been satisfactorily explained, on examination, as arising from a vast number of spherical particles or medusæ adhering to the bodies of these fishes. Many fishes however when dead, and the flesh in a putrescent state, emit light; but this is not a case in point, as our object is to inquire into the nature of living luminous animals.

The extraordinary appearances produced by minute luminous animals at sea have been already described,* we have now to speak of the flies, worms, &c., which are likewise luminous.

The property alluded to is only met with in animals of the four last classes of naturalists, i. e., mollusca, insects, worms, and zoophytes. The first and third of these classes contains each but a single luminous species: among mollusca the species called *Pholus dactylus*; among worms, *Nereis noctiluca*. The number of insects which yield light is very considerable: there are eight genera containing species of this description. Among zoophytes we find three genera containing species which afford light.

Numerous theories have been started from time to time which profess more or less to account for this remarkable property of some of the insect race. In one theory the influence of the nervous system is obscurely hinted at as the cause; in another, the respiration; and in a third, the circulation is supposed to influence the phenomenon. Other naturalists speak of a substance resembling phosphorus, which is secreted by peculiar organs in these insects, and by means of which the light is emitted. Treviranus, however, who has bestowed an anatomical examination on the *Elatr noctilucus*, as also on the *Lampyri*, assures us that there is no organ to be found in these insects capable of secreting the luminous substance, not even at the luminous points of these animals, and that the faculty proceeds from the fatty or albuminous substance of the insects. There is probably no case in which pure albumen can become luminous; we must therefore conclude that some other substance is incorporated with it, and that this substance, either alone or incorporated with albumen, is the cause of the light produced. Phosphorus is a familiar example of a light-producing body, and as it

exists somewhat abundantly in animal bodies, we may not greatly err in ascribing the luminousness of insects to the phosphorus intermixed with fatty or albuminous matter. Phosphorus is not of itself luminous, but it becomes so by contact with the oxygen of the atmosphere. Now the observations which have been made on these insects, under a variety of circumstances agree tolerably well with the common properties of phosphorus, supposing that to be the light-producing source in the insect. The insect is luminous not merely at its bright spots, but throughout its interior, wherever the luminous phosphoric combination is formed: the light disappears in irrespirable gases; it increases by warmth, but is destroyed by cold; by immersion in oil, alcohol, acids, saturated solutions of salts and alkalis, as also in vacuo. The light of phosphorus is subject to similar changes when similarly treated.

If therefore phosphorus exists in the luminous insects, in combination with a fatty or albuminous substance, we must attribute the luminousness to respiration, by which process oxygen is deposited in the corporeal substance, and each inspiration causes the animal to shine. Now, as Burmeister observes, as respiration is always strongest during flight, it follows that the emission of light will also then be most powerful. In opposition to this the wingless state of the female glow-worm might be urged; but her short and thick body must contain more of the phosphoric fatty substance, and must therefore emit a stronger light than that of the male, whose body is more slender. Next to respiration, the circulation of the blood seems to have great influence upon the light, for we know that the substance emits light only when moist; and the blood, flowing in the immediate vicinity or in contact with the fatty substance, may supply the moisture which promotes the luminousness. Carus has also observed that upon each pulsation, and consequently upon each fresh wave of blood, the light shines brighter. He observes also that the brighter shining of the female may be due to the dark, damp places which she inhabits. Thirdly: the nervous system may exercise a certain influence on the production of the light, for as it is the chief agent of all the voluntary motions of the body, it will also of necessity exercise some influence upon the voluntary suppression of the light, if the insect suspends this influence by checking respiration in the same way that it causes the nerve to act upon the muscle in producing muscular motion. That it possesses this faculty of checking respiration is admitted by naturalists; but that this cannot be long protracted is evident from the very nature and purposes of respiration; and thus by both causes the momentary cessation of light which is frequently observed may be produced. Upon respiring again the insect would necessarily become again luminous.

Some of the most remarkable among luminous insects are found in the genus *Fulgora*, though it is not certain that the effulgent property which the generic name seems to imply is possessed by all the species. They are all furnished alike with a remarkable trunk or proboscis on the fore part of the head, but in some of the species it is extremely small. The light in this genus has been observed to issue from the trunk in question, and thus the large and brilliant species inhabiting China and several other eastern countries, as well as that which illumines the savannahs of South America, has acquired the general name of *Lantern-fly*, or *Lantern-carrier*. The proboscis in these insects is described as being hollow or empty, and what seems still more extraordinary, it has a free communication with the external air by means of a

chink, or narrow aperture, placed on each side, at the root of the proboscis. This projection is covered internally by a membrane, between which and the horny part or shell, there appears to be interposed a pale reddish coloured soft substance, that is arranged in the species *candelaria* in broad lines or stripes, but this substance is so extremely thin that its structure cannot be distinctly ascertained.

The beautiful insect of which a representation is given at the end of this article is the *Fulgora candelaria*, or Chinese Lantern-Fly. Its long cylindrical proboscis is slightly arched in an upward direction: the reticulated *elytra*, or wing-cases, are of a greenish tint, variously spotted or marked: the wings are of a beautiful orange-yellow, with black extremities.

This insect is an inhabitant not only of China but of several other countries of the East, and may be seen in vast numbers flitting among the dark recesses of the Banyan-tree, or dancing around the branches of the spreading tamarind, producing a brilliant and beautiful effect.

The South American species, (*Fulgora lanternaria*), is an equally remarkable insect, carrying its light in a proboscis similar to that of the *candelaria*. It is also met with in Surinam, and some idea may be formed of its brilliancy by the account given of it by Madame Merian in her *Metamorphosis of Insects*.—

Once (says this authoress) when the Indians brought me a number of these lantern-carriers, I put them in a wooden box, without being aware of their shining at night; but one night being awakened by an unusual noise, and much frightened, I jumped out of bed and ordered a light, not knowing whence this noise proceeded. We soon found that it originated in the box: we opened it, and became still more alarmed, for a flame issued from it, which received additional lustre as one insect after another flew out.

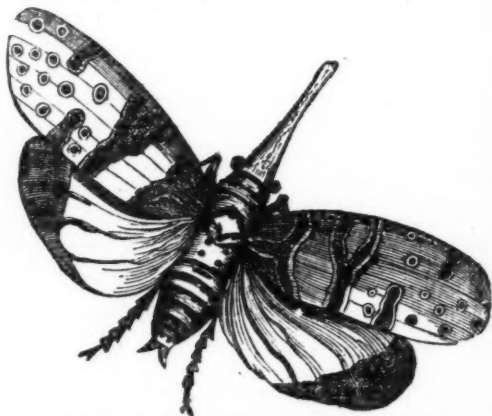
This account of Madame Merian, when first published, appeared too marvellous to be generally believed, and notwithstanding similar relations had been received of the lantern-fly of Peru, as seen by Dr. Grew, very little credit was given to her account, until it became abundantly confirmed by the testimony of missionaries and other travellers.

It is strange that the veracity of travellers should have been so long doubted respecting insects of this kind, as there is nothing in the property ascribed to these little creatures more wonderful in its nature than that which is possessed by our own familiar example of a luminous insect, the common glow-worm.

On every hedge

The glow-worm lights her gem, and through the dark
A moving radiance twinkles.

* See *Saturday Magazine*, Vol. IV p. 220, and Vol. XII. p. 240.



THE CHINESE LANTERN-FLY, (*Fulgora candelaria*.)

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